

System for adding Electronic Billing Capability to Conventional Mail Preparation Systems

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This document is a narrative description for the Block Diagram / System Flow Chart of Disclosure #7372.

The overall intent of this invention is to offer our customers the capability of distributing Billing notices via electronic means in addition to the existing paper mail based method. Electronic distribution of billing information provides incremental utility to both the mailer and the end recipient of the billing information:

- The mailer benefits from reduced or eliminated:
 - Materials costs: No paper, envelopes, supplies to buy;
 - Postage Costs: Electronic transmission costs lower than postage;
 - Capital Costs: Printer, Inserter, materials handling Infrastructure, Floor Space, not needed to produce electronic billing;
 - Labor Costs: Printer, Inserter, Warehouse operators and service personnel not needed for electronic distribution;
 - Funds Float: the billing notice arrives in hours, not days, bringing cash in sooner.
- The end recipient benefits from improved convenience in the form of:
 - Less paperwork (correspondence could be completely electronic);
 - Billing records can be automatically imported into popular home financial management software ie Quicken, Microsoft money, etc.
 - Payment can be arranged by electronic means, eliminating additional paperwork, postage, and trips to the mailbox.

Knowing that the cultural shift from paper based communications to electronic means has been and will continue to be gradual, Pitney Bowes is in the unique position to offer our mailing customers a seamless transition path by enabling Billing delivery via either or both channels as a turnkey solution, thus eliminating the need for each customer to develop the expertise necessary to implement a robust delivery mechanism. This approach has strategic value for PB in that acceptance of this product in the market can in effect institute a de-facto standard for electronic billing delivery (and payment, if desired), enhancing Pitney Bowes' reputation as a trusted 3rd party for these (and subsequently other) messaging transactions. 3

Please refer to the Block Diagram. Each function on the block diagram has been assigned an identifying letter.

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- encryption key(s) and status, used to secure the billing information transfer and any subsequent payment transfer.

Based on the customer's ID from (D), the customer's preferences are extracted from the customer preference database (E). Based on the customer's preference, the billing record is routed by means of switch (F) to either conventional mailing equipment (via fail-over switch (EE) to Printer (FF)) or to Electronic delivery.

In the case of electronic delivery, the billing record is converted to a "generic" billing record format by means (H). This means converts the customer's native record format (which may be different from mailer to mailer) to a standard, generic format for transfer to a plethora of Customer Reception Means.

Based on information stored in the customer preference database, means of uniquely identifying this particular mailer, customer, and billing record to a financial institution is added to the generic record by means (J). Based again on information stored in the customer preference database, this enhanced generic billing record can be encrypted for secure transmission to the customer by means (K). Depending on the specific communications network to be used, a buffer means (M) may be required to collect and hold one or more enhanced generic billing records for subsequent transmission through the network (P). Transfer of enhanced generic billing records to the Communications Network (P) may be executed either continuously or in batches.

Communications Network (P)

This embodiment assumes a relatively active approach by the end recipient of billing records in that it expects the end recipient to periodically initiate communications with the Communications Network (P) via a Customer Reception Means (HH) to retrieve billing records stored therein. This assumption is what requires the Communications Network (P) to have store and forward capability, since the end recipient is not likely to be retrieving bills exactly when the E-Bill Server (KK) is sending them. (In fact, the E-Bill Server may be configured to communicate with the communications network (P) at times of the day when network traffic is at a minimum, for example at 3 am.)

This approach was chosen for this embodiment to minimize the need for a real time connection between the E-Bill Server (KK) and the Customer Reception Means (HH). Such a real time connection would require the Customer Reception Means (HH) to be accessible to the communications network (P) on a continuous basis. Since in current technology the communications network (P) is likely to include the end recipient's telephone line, this accessibility would require a dedicated phone line for the Customer Reception Means (HH), a probably unwanted expense for the end recipient. Thus, requiring the communications network (P) to be able to store the end recipient's billing record until the end recipient actively requests it eliminates the need for dedicated connection between the Customer Reception Means (HH) and the communications network (P).

System Flowchart for Adding Electronic Billing Capability

